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September 21, 2000

VIA FACSMILE AND MESSENGER DELIVERY

Mr. Bradley Stimple
On-Scene Coordinator
U.S. Environmental Protection Agency, Region 5
Superfund Division
Emergency Response Branch
77 West Jackson Blvd., SE-5J
Chicago, IL 60604

RE: *Nicor Mercury Sites – Scrap Yards and Processing Facilities*
CERCLA 106 Order

Dear Brad:

On Tuesday of this week, Nicor Gas ("Nicor") commenced its removal actions at the Chicago Heights Iron & Supply site pursuant to the Removal Action Work Plan previously approved by U.S. EPA. As I have discussed with Tom Krueger, Nicor and U.S. EPA are in agreement that Nicor's remedial obligations under the 106 Order are currently limited to the cleanup of the Chicago Heights site. As set forth in the Removal Action Work Plan, upon completion of work at the Chicago Heights site, Nicor will confer with U.S. EPA to determine the appropriateness of utilizing these procedures at other sites, including the three additional scrap yards identified by U.S. EPA and Nicor's reporting centers and other industrial facilities where investigations by Nicor or Illinois EPA have identified potential mercury impacts. We do understand, however, that additional work will be required at the three additional scrap yards as well as certain of the Nicor reporting centers and other industrial facilities, including possibly those facilities where manometers have been located.

As for the scrap yards, we understand that U.S. EPA will amend the 106 Order in the near term to address these sites. With respect to the reporting centers and other industrial facilities where mercury impacts have been identified, Nicor's cleanup activities have been substantially completed. Nicor has prepared the attached generic work plan entitled "Removal Action and Confirmation Sampling Plan," which sets forth the procedures Nicor has employed in its cleanup efforts at these reporting centers and other industrial facilities and which describes the

confirmatory sampling Nicor will undertake at these sites to ensure that the cleanup activities have achieved appropriate standards. Again, Nicor believes that only confirmatory sampling remains to be completed at most of those sites. This sampling plan is being submitted for your review and approval pursuant to the 106 Order. Upon approval of this generic plan and upon further direction from you after consultation and coordination with Illinois EPA, Nicor and the Agency will discuss the implementation of this work plan at an agreed upon number of reporting centers and other industrial facilities.

Please call me to discuss any questions or comments you might have regarding the proposed confirmatory sampling plan and the coordination of additional activities beyond the scope of the existing 106 Order. I look forward to speaking with you soon.

Very truly yours,

John W. Watson/mc

John W. Watson

JWW/ac
cc: Thomas Krueger (Via Facsimile)
CH01/12103133.1

REMOVAL ACTION AND CONFIRMATION SAMPLING PLAN

NICOR GAS REPORTING CENTERS AND OTHER INDUSTRIAL/COMMERCIAL LOCATIONS

September 21, 2000

By
James E. Huff, P.E.

1. INTRODUCTION

This document presents the procedures Nicor Gas is utilizing for the cleanup of mercury at Nicor Reporting Centers and other industrial/commercial locations where mercury has been identified.

Specifically, this Work Plan was prepared to cover the following:

- Scrap metal bins at the Reporting Centers that have mercury vapors present above 0.010 mg/cu m.
- Wood surfaces at the Reporting Centers that have mercury above 0.025 mg/cu m, the NIOSH recommended 8-hour time weighted exposure limited for industrial workers.
- Concrete and asphalt surfaces at Reporting Centers that have mercury vapor readings above 0.01 mg/cu m.
- Nicor Gas vehicles that have mercury vapor present above 0.010 mg/c m.
- Soil screening and confirmatory samples at the Reporting Centers where mercury vapor were present above 0.01 mg/cu m.
- Areas at other industrial/commercial locations that have mercury vapors present above 0.010 mg/cu m.

2. DECONTAMINATION OF SCRAP METAL BINS/PADS AT THE REPORTING CENTERS

Nicor has completed segregating the mercury regulators (and mercury contaminated debris) from the remainder of the scrap metal present in the scrap metal bins at certain Reporting Centers. At some Reporting Centers, the scrap metal is stored on a concrete pad, with wooden sides. The following procedure is substantially the same at either type of site, modified as appropriate based on site specific conditions:

1. Place DOT rolloff box within ten feet from the existing scrap bins (or pads) and remove any tarp cover from DOT rolloff box.

2. With a Jerome meter, measure and record the mercury vapor values on all four sides of the new rolloff box and the middle, by inserting the meter tip 6 to 12 inches inside the box. Reject the box if the average mercury level is greater than 0.010 mg/cu m.

3. Line the new rolloff box if not already lined.

4. With the Jerome meter, measure and record the mercury vapor readings within the existing scrap metal bin(s) on all four sides, holding the meter 3 to 6 inches above the scrap metal in the bin. Record the readings.

5. Drape plastic between the scrap metal bin and the new rolloff box if close enough or triple line the ground area between the rolloff and the existing scrap metal bin where loads may be dropped to remove mercury type regulators.

6. Monitor the perimeter of the boxes/bins with Jerome meter before starting, and every 20 minutes during the transfer for mercury vapors.

7. Prior to the transfer, suit up workers that will be inspecting the magnet and scrap metal transfer in Level C that will be closely inspecting the magnet and bin for mercury regulators and await for IEPA/U.S. EPA staff to observe the transfer operation, as requested.

8. Begin transfer operation with the magnet, removing small enough loads to readily inspect each load. All sides of the magnet are to be checked.

9. After every five loads or so, inspect the bin for newly exposed mercury type regulators. If readily accessible, remove by hand. Otherwise have the magnet gently set the regulator on the triple lined plastic.

10. Place any mercury type regulators in a lined 55 gal drum, and place lid on the drum (unsealed at this point).

11. Continue until scrap bin is substantially empty of ferrous metal.

12. Try to minimize the removal of paper, wood, and cardboard into the rolloff box.

13. Upon emptying the bins, before cleaning, use the Jerome meter and record the mercury vapor readings in the rolloff box and the bins, using the same procedure as above.

14. With coordination of the IEPA, carefully pull out the mercury-type regulators and open mercury end cap to see if mercury is present, and to provide the Agency rep with a sample, if so desired.

15. Record Jerome meter mercury vapor reading in each mercury regulator where no mercury was present.

16. When the IEPA is done with any mercury regulators, close up drum and seal it and label drum with Yellow Hazardous Waste Label, and complete the generator ID number, address of Reporting Center. The DOT shipping name will be

    "RQ, Waste Mercury contained in manufactured articles, 8, UN2809, PG III."

    These regulators will be disposed of as "high-level" mercury waste," at an appropriate waste facility.

17. Clean inside of the bin(s), striving to achieve 0.010 mg/cu m by scrapping, sweeping, vacuuming, and using mercury cleaning solution 102, as appropriate. Place all paper, cardboard, and small wood in 55 gal drums for disposal as low level mercury contaminated (D009).

18. Larger pieces of debris should be checked with the Jerome meter. If less than 0.010 mg/cu m, place in the company trash dumpster. If over 0.010 mg/cu m, cut up and put in the 55 gal drum described above for the low level mercury debris.

19. Place all plastic in the same low level mercury debris drums.

20. After completion of the work, use the Jerome meter on the new scrap steel rolloff box, recording the values on all 4 sides.

21. Label all low level mercury debris with a Yellow Hazardous Waste Label. The proper DOT shipping name will be:

    "RQ, Hazardous Waste Solid, n.o.s., 9, NA 3077, PG III, (D009)"

This low level waste will be transported to EQ in Belleville, MI for proper disposal.

For determining if a rolloff box full of scrap metal is "mercury-free", the following protocol will be used:

1. With the Jerome meter, mercury vapor readings will be collected between 3 and 6 inches above the scrap metal at twelve locations approximately equally spaced around the perimeter of the rolloff box.

2. At any location where a reading above 0.000 mg/cu m is recorded, collect a total of three samples at this location.

3. Average the three samples from each location into a single value.

4. Average the twelve samples, using 0.001 mg/cu m for all readings of 0.000 mg/cu m.

5. If the average is less than 0.010 mg/cu m, the material will go off as scrap metal to an appropriate scrap yard or other disposal facility. If the material is above the agreed upon objective, the material will be shipped to EQ as a low level mercury hazardous waste for proper disposal.

3. MISCELLANEOUS AREAS AT REPORTING CENTERS AND COMMERCIAL/INDUSTRIAL FACILITIES

There are other areas at the various Reporting Centers and at industrial/commercial facilities where mercury vapor readings have been identified. Examples include concrete floors where the mercury flasks have been stored and areas around manometer locations at industrial sites.

In the case of the trash dumpster, the contents of the dumpster will be transferred into lined 55-gallon drums for disposal at EQ as low level mercury waste. The dumpster will then be cleaned following a similar protocol to the scrap bins in the previous sections, with a cleanup goal of 0.010 mg/cu m, based upon an average of not less than six readings.

Concrete with mercury vapor readings above 0.010 mg/cu m will be first vacuumed with a mercury approved vacuum, with mercury trap, carbon, and HEPA filter. The pad will then be washed with a mercury decontamination solution. Wooden surfaces will be decontaminated at the Nicor Reporting Centers to 0.025 mg/cu m.

Using the Jerome meter, Mercury vapor readings will be collected between 3 and 6 inches off the concrete floor not less than 1 reading for every 50 sq ft. Any areas exhibiting more than 0.025 mg/cu m will be decontaminated again, and if necessary sealed.

4. NICOR GAS SERVICE VEHICLES

Mercury vapor may be present in some trucks, within the passenger cab, the tool and pipe fitting bins, and the cargo space area. Because these trucks travel on public streets, decontamination will be conducted until each area achieves an mercury vapor reading in each of the three areas of less than or equal to 0.010 mg/cu m. using a Jerome Meter. The following screening and decontamination protocol will be followed:

1. Nicor Safety Department personnel accompanied by a Fleet Management employee will visit each Reporting Center.

2. Each truck will be screened for mercury vapor at the following locations.

   Cab

Left side floor	Right side floor
Left side seat	Right side seat
Left side head level	Right side head level

   Bin #1
   - Top Side
   - Middle
   - Bottom

   Bin #2
   - Top Side
   - Middle
   - Bottom

   Cargo Area
   - Floor level (3-6" off floor)
   - 4 samples minimum

3. Any cab or cargo areas with a mercury reading above 0.010 mg/cu m will be inspected for visible mercury. If observed, it will be cleaned using Hg Absorb and Mercury Vapor Absorbent Powder. The cleaned area will then be retested.

4. Vehicles that fail to achieve the 0.010 mg/cu m. mercury vapor objective will be driven to Heritage Environmental Services for a more aggressive protocol.

5. The area of the truck that is above the mercury vapor objective will result in discarding all materials within the area in a low level mercury waste lined 55-gallon drum. Tools will be decontaminated with a mercury decontamination solution. The area will be vacuumed and washed with a mercury decontamination solution above drip pans. The cleaned area will then be retested.

6. The decontamination solution will be disposed of at Heritage's Indianapolis Mercury Treatment Facility as Hazardous or Non-Hazardous waste, depending on the TCLP mercury level.

5. SOIL SCREENING AT REPORTING CENTERS

After the scrap metal has been segregated, and removed from each Reporting Center where mercury was discovered in the scrap metal bins, a program to test the soil will be conducted. The first step will be to question site employees on where the scrap metal may have been stored historically. The present scrap metal bin area and any identified historical area will be evaluated for soil impacts using the following protocol:

1. Set out a 10-ft by 10-ft grid with flagging (or paint on asphalt areas) over the entire area, labeling the flags on a grid pattern.

2. Using the Jerome 431-X or 411 meter, with particulate filter, readings will be taken at each flagged area, at a height of 1-inch +/- 0.5 inch above the ground level. The results will be recorded. At any location where a positive reading is obtained, a second reading will be taken. The average will be utilized.

3. At any location where a reading above 0.010 mg/cu m is obtained, a backhoe will remove 6 inches of soil from the 10-ft by 10-ft area, and the areas will be retested with the Jerome Meter on impermeable surfaces, the area will be washed with a mercury decontamination solution. This procedure will continue until the entire area achieves 0.01 mg/cu m mercury vapor.

4. Any excavated soil will be loaded in to a lined rolloff box located on the back of the truck.

5. The flags will remain in place at the completion of the Jerome meter screening.

6. At the completion of this phase, the soil rolloff box will be removed from the truck, placed in side the exclusion zone and covered.

7. The soil in the rolloff box will be analyzed for TCLP RCRA metals. The soil will be disposed of as a RCRA hazardous waste at EQ or as a special waste based on the sampling results. Appropriate labels will be secured to the rolloff as soon as analytical results are available.

5.1 Soil Confirmation Sampling Protocol

The following protocol will be used for confirming that the mercury has been successfully removed from the Reporting Centers:

1. From each ten screened samples from the surface areas, a soil sample from the location having the highest final Jerome Meter reading will be sampled from 0 to 6 inches using a hand auger, if possible, or a shovel and pick ax if the ground is too firm for the hand auger. The soil will be placed into a stainless steel mixing bowl, mixed thoroughly, and placed in two 4-ounce clean laboratory jars for analysis. No soil sampling from beneath impervious surfaces is proposed.

2. One confirmation sample per 1000 sq ft will be collected from the soil and stone covered areas.

3. All samples will be labeled with the site, date, time, and sample grid location, and initialed by sampler. All samples will be placed in individual plastic bags and sealed to avoid cross contamination, and immediately placed in a cooler with ice. Care will be taken in filling the coolers to avoid breakage. A chain of custody will accompany the samples to the laboratory.

4. Between samples, the sampling equipment will be cleaned with the following protocol:

   Alconox Wash with potable water
   Tap water dip rinse
   Mercury decontamination solution
   Tap water dip rinse, separate container
   Distilled water spray rinse
   Air Dry

5. The samples will be shipped to Test America's Bartlett Laboratory for analysis of total mercury using method SW846-7471A, which has a method detection limit of 0.04 mg/kg. In addition, the soil pH and % will be measured, so that it can be determined whether the soil migration to ground water pathway objectives are achieved and to report the results on a dry weight basis.

6. Duplicates will be collected for mercury and pH on one in ten samples. Field blanks and trip blanks will be collected daily when conducting confirmation sampling.

7. Test America will provide results three working days from receipt. This will allow time for retesting if the results are outside of the calibration range, and the completion of the necessary QA/QC checks as described in the QAPP.

8. Any confirmation samples above the objectives will necessitate further soil removal and additional testing.

5.2 Soil Cleanup Objectives

Response actions conducted by Nicor at the Reporting Centers will be deemed complete upon satisfaction of appropriate remediation objectives for mercury as provided at 35 Ill. Adm. Code Part 742. For reference purposes, the Tier 1 remediation objective for mercury are as follows:

Ingestion	
Residential	23 mg/kg
Industrial/Commercial Objective (I/C)	610 mg/kg
Construction Worker Objective (CW)	61 mg/kg
Inhalation	
Residential	10 mg/kg

Industrial/Commercial Objective (I/C)	540,000 mg/kg
Construction Worker Objective (CW)	52,000 mg/kg

Soil migration to ground water

Soil pH	Total Mercury, mg/kg
4.5 to 4.74	0.01
4.75 to 5.24	0.01
5.25 to 5.74	0.03
5.75 to 6.24	0.15
6.25 to 6.64	0.89
6.65 to 6.89	2.1
6.90 to 7.24	3.3
7.25 to 7.74	6.4
7.75 and above	0

Nicor shall utilize the remediation objectives provided above or establish site specific standards or remediation strategies consistent with the requirements of 35 Ill. Adm. Code Part 742. If the industrial/commercial objectives are utilized a deed restriction will be put into place.